# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/868,752 | 09/04/2001 | Mark Stewart Nichols | 05222.00165 | 6533 |

| | | | EXAMINER |
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| 29638 | 7590 | 02/13/2006 | BUSS, BENJAMIN J |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 2129 | |

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| *Office Action Summary* | 09/868,752 | NICHOLS, MARK STEWART |
| | Examiner | Art Unit | |
| | Benjamin J. Buss | 2129 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _12 July 2005_.

2a)☒ This action is **FINAL**.    2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-19_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-19_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All  b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## DETAILED ACTION

This action is responsive to application **09/868,752** filed 09/04/2001 as well as the Amendment filed

7/12/2005. *Examiner respectfully requests that Applicant notice that the Examiner and Art Unit for this*

5      *case have changed since the last action of the merits of this case. Updated correspondence information*

*for this case can be found at the end of this action on the merits.* Claims 1-19 filed by the applicant have

been entered and examined. An action on the merits of claims 1-19 appears below.

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### *Priority*

10     Acknowledgment is made of applicant's claim for priority based on application 09/221,217 filed in the

United States on **12/22/98**.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the

15     rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

20

Claims 1-6, 9-15, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by *Cook* (USPN

5,727,950).

**Regarding claim 1**:

*Cook* teaches:

25           -  (a) Receiving, by a goal based learning system, received information indicative of a goal (C5-

63 especially "In an exemplary embodiment, this data subtype includes

standard and criteria data, usually set by the school system, which

include objectives and standards the student must meet in the

particular course, milestone data establishing objectives already met

30           by the student, data relating to the student's progress in the

materials, data relating to the student's use of tools in the

materials, and performance data" C49 L1-20);

- (b) Determining training needs of a student from the received information (C5-63 especially

"Progress data includes data necessary for the student to leave the

5          materials and resume the materials at the prior point. Performance

data 1112 relates to student's performance over several lessons in

the materials and can include mean performance, weighted moving

averages of performance, patterns of performance, use of hints, use

of retries, and needed remediation. Using such performance data, for

10         example, means and weighted moving averages, permits the agent to

determine whether student performance is improving or declining" C49 L1-

20 and "A further important object of this invention is to utilize

augmented computer-assisted instruction materials which present to

students a variety of interactive, adaptive, and self-paced computer-

15         assisted instruction and homework materials in a manner which informs

the agent of a student's progress and performance and which permits

the agent to manage or control the materials to the student's

pedagogic characteristics. Thereby, the ABI system can effectively

guide and engage students in their educational tasks" C6 L55-65 and "The

20         materials engine can adjust its sequence of presentation in response

to student responses. At a next level, the requests and responses

exchanged between the student and the materials engine can follow

several patterns known in the arts of computer based instruction and

which, for example, include the following. First, the student can

25         respond to questions presented by the materials engine, and in the

course of responding, can ask for advice or hints, the use of a tool

such as a calculator, or other relevant assistance. Second, the

student can advance to the next item, lesson, or unit upon successful

completion of the present item, lesson, or unit. Third, in case of

error, the student can request, or automatically be presented with,

appropriate repeat, review, or student materials. Finally, at a

5       higher level these patterns of interactions can be analyzed to

provide more adaptive responses from the system." C11 L20-45);

- (c) Integrating information that motivates accomplishment of the goal for use in the

presentation (C5-63 especially "The on-screen agent instructs, motivates,

engages and guides its student" C5 L45-C6 L15 and "in the case of a

10      communication triggered by good performance, the agent can select the

display of sound and video clips, from a data snips library, that the

student finds pleasing. The agent can further make reward graphics

available on the student's screen for a period of time" C14 L15-30 and

"The affect further characterizes the intent of the utterance. For

15      example, an utterance of a "congratulations" type is associated with

a positive affect that can range from "happy," in cases of superior

performance, to "encourage," in cases of improving but still less

than average performance. The display behavior of the on-screen

agent, preferably represented as one or more personae interacting

20      with each other and the student, is strongly responsive to the affect

parameter. As is known in the arts of film animation, infusing an

animation with an affect or emotion gives resulting images a human

and life-like quality. Such a quality is important so that the

virtual tutor aspect of the ABI system engage the student in order to

25      improve instructional results" C58 L10-45);

- (d) Evaluating progress toward the goal (C5-63 especially "In an exemplary

embodiment, this data subtype includes standard and criteria data,

usually set by the school system, which include objectives and

standards the student must meet in the particular course, milestone

data establishing objectives already met by the student, data

relating to the student's progress in the materials, data relating to

5          the student's use of tools in the materials, and performance data" C49

L1-20) and providing feedback that further motivates accomplishment of the goal (C5-63

especially "in the case of a communication triggered by good performance,

the agent can select the display of sound and video clips, from a

data snips library, that the student finds pleasing. The agent can

10         further make reward graphics available on the student's screen for a

period of time. On the other hand, in the case of error the agent can

point to the screen location of the error" C14 L15-30 and "in response to

a previous high or increasing error rate of the student, the on-

screen agent presents a meta-response 508 commenting on the pedagogic

15         nature of the student's error. Further, it activates a persona 507 to

engage the student's attention. This persona can advantageously

include animation, audio, and speech output of the displayed text" C26

L35-65; Also see Figure 4) and further includes:

o    Determining how much work is correct by each concept of a plurality of concepts

20                   within a concept hierarchy to identify active pieces of remediation, the work being

submitted by the student (C5-63 especially "The materials engine can

adjust its sequence of presentation in response to student

responses. At a next level, the requests and responses

exchanged between the student and the materials engine can

25                   follow several patterns known in the arts of computer based

instruction and which, for example, include the following.

First, the student can respond to questions presented by the

materials engine, and in the course of responding, can ask for

advice or hints, the use of a tool such as a calculator, or

other relevant assistance. Second, the student can advance to

the next item, lesson, or unit upon successful completion of

5          the present item, lesson, or unit. Third, in case of error,

the student can request, or automatically be presented with,

appropriate repeat, review, or student materials. Finally, at

a higher level these patterns of interactions can be analyzed

to provide more adaptive responses from the system." C11 L20-45

10         and "previous student interactions should be utilized. Repeated

requests for hints should be noted and dealt with perhaps not

with another hint but with remediation. The rate of prompts,

advice, and hints should be adaptively adjusted on the basis

of ongoing performance records" C28 L50-60 and "These schedule

15         parameters include those controlling the tools and options

available to the student while performing a given task and

those requiring the student to perform background reading or

remediation. Important initiative parameters include the

scheduling values of task priority value and deadline. If the

20         priority and date are not both "off", those tasks with greater

priority and earlier deadline are automatically scheduled for

the student. If these values are "off", the student has

control of task scheduling" C29 L15-30 and "Error responses include·

retry policies and selection of remediation paths. Remediation

25         can be item sequencing options given on the basis of retry

outcome" C32 L50-60; *Examiner notes that a hierarchy is defined as "a series*

*of ordered groupings of people or things within a system"*

*(WordNet 2.1, Princeton University) and that it is clear that the system of Cook*

*selects the ordering of remediation material based upon how much work is correct in*

*student responses within work submitted by the student.  Cook clearly teaches a*

*system in which a student progresses and regresses within a hierarchy of*

5          *educational concepts based on evaluations of the student's current and past*

*performance.);*

o  Analyzing the active pieces of remediation within the concept hierarchy (C5-63

especially "Notations are augmented ... customized by teachers" C7 L1-

20 and "An object of ... oriented database system" C7 L40-60 and

10          "the student data ... installing new materials" C49 L40-55 and "at a

higher level these patterns of interactions can be analyzed to

provide more adaptive responses from the system." C11 L20-45);

o  Selecting at least one of the active pieces of remediation for delivery (C5-63

especially "Generally, agent behavior ... several instructional

15          sessions" C58 L10-45 and "Error responses include retry policies

and selection of remediation paths. Remediation can be item

sequencing options given on the basis of retry outcome" C32 L50-

60; Also see Fig. 4 and Fig. 5);

o  Assembling the at least one of the active pieces of remediation into a cohesive unit of

20          feedback (C5-63 especially "A further important...student's pedagogic

characteristics" C6 L55-65 and "system components preferably have

an interface to the agent in order that the agent can control

the materials and guide the student in a uniform manner" C48 L

10-15 and "Generally, agent behavior ... several instructional

25          sessions" C58 L10-45; Also see Fig. 8 and Fig. 9); and

      o   Delivering the unit of feedback (C5-63 especially "in case of … or

remediation materials" C11 L35-45 and "The lesson coaching

parameters are used by the agent to provide feedback to the

instructional materials so that their presentation can be

5          individualized according to student performance" C49 L20-45 and

"Instructional sequencing is appropriate for interactive

instruction with feedback. Homework sequencing can include a

fixed order; a student defined order; a student defined order

assisted by teacher prioritization into such priority groups

10          as essential, important, or optional; and sequencing defined

by performance to criterion on individual item subtypes" C32 L15-

30; Table 2B in C41-42); and

   -   (e) Managing the presentation of information around specific requirements designed to

achieve the goal (C5-63 especially "The lesson coaching parameters are used by

15          the agent to provide feedback to the instructional materials so that

their presentation can be individualized according to student

performance" C49 L20-55 and "In order that the student's agent can act

generally to provide student guidance and control material

presentation in a manner individualized to the student's pedagogic

20          characteristics, it is preferable that an embodiment of this

invention use an instructional materials interface standard (herein

called "IMIS"). According to IMIS, it is preferable that the

detailed content generated by the notations and passed in messages

to the agent be structured in a standard fashion according to the

25          particular educational paradigm adopted by the materials and

independent of the particular content of the materials" C52 L25-45).

**Regarding claim 2:**

*Cook* discloses wherein the requirements include direct linkages to remedial educational presentations

(C5-63 especially "the student can request, or automatically be presented with,

appropriate repeat, review, or remediation materials" C11 L35-45).

**Regarding claim 3**:

5       *Cook* discloses wherein the requirements include limits that prohibit access to sections of the

presentation until the goal is obtained (C5-63 "student selection of an icon presented in

the system area requesting the ES to start the function represented, it turn

checks with schedule/calendar 607 whether the student is currently permitted

to access this function before continuing with OS task creation. The system

10      manager also presents whatever reward graphics and animation the student has

been granted access" C34 L15-30 and "requiring the student to perform background

reading or remediation. Important initiative parameters include the

scheduling values of task priority value and deadline. If the priority and

date are not both "off", those tasks with greater priority and earlier

15      deadline are automatically scheduled for the student" C29 L15-30 and "in the case

of a communication triggered by good performance, the agent can select the

display of sound and video clips, from a data snips library, that the student

finds pleasing. The agent can further make reward graphics available on the

student's screen for a period of time" C14 L15-30; *Examiner notes that it is clear that*

20      *rewards will not be presented to the student unless they are earned by exceeding a goal based on the*

*level of performance for a task.*).

**Regarding claim 4**:

*Cook* discloses including limiting access to sections of the presentation until appropriate prerequisites are

completed (C5-63 especially "the student can advance to the next item, lesson, or

25      unit upon successful completion of the present item, lesson, or unit" C11 L25-45

and "The schedule/calendar tool can be directed by the teacher to permit the

student a range of scheduling initiatives. These initiatives can range from

permitting the student freedom to schedule materials as desired to requiring the schedule/calendar tool to enforce a fixed order of student activities" C44 L30-45 and "student selection of an icon presented in the system area requesting the ES to start the function represented, it turn checks with

5    schedule/calendar 607 whether the student is currently permitted to access this function before continuing with OS task creation. The system manager also presents whatever reward graphics and animation the student has been granted access" C34 L15-30 and "requiring the student to perform background reading or remediation. Important initiative parameters include the

10   scheduling values of task priority value and deadline. If the priority and date are not both "off", those tasks with greater priority and earlier deadline are automatically scheduled for the student" C29 L15-30; *Examiner notes that a fixed order of student activities is indicative of prerequisites that must be completes before a student may access later scheduled tasks*).

15   **Regarding claim 5**:

*Cook* discloses including providing feedback that identifies a navigation path for a student based on the goal (page 69, lines 23-35, "the designer defines standards for the completeness of requested inputs and actions ... include retry policies and selection of remediation paths. Remediation can be item sequencing options given on the

20   basis of retry outcome" C32 L45-60)

**Regarding claim 6**:

*Cook* discloses including utilizing a student identifier to control access to appropriate presentation material (C5-63 especially "The executive software verifies student identity and access authority, establishes communications sessions with the system servers

25   as required during client start-up, downloads from the student object database the student data object corresponding to the student in session at this client system, downloads instructional materials scheduled for this

student" C17 L15-40 and "5.2.4 ABI System Security ... possible security violations"

C22 L30-C23 L20 and "FIGS. 10A, 10B and ... past agent behaviors" C48 L30-60)

**Regarding claim 9:**

*Cook* discloses including storing a central location for one or more students that tracks the one or more

5    students progress in the presentation (C5-63 especially "In an exemplary embodiment, this

data subtype includes standard and criteria data, usually set by the school

system, which include objectives and standards the student must meet in the

particular course, milestone data establishing objectives already met by the

student, data relating to the student's progress in the materials, data

10    relating to the student's use of tools in the materials, and performance data"

C49 L1-20 and "The executive software verifies student identity and access

authority, establishes communications sessions with the system servers as

required during client start-up, downloads from the student object database

the student data object corresponding to the student in session at this

15    client system, downloads instructional materials scheduled for this student"

C17 L15-40 and "in order to track the student progress and to generate reports

concerning the students and materials in the ABI system" C15 L10-25).

**Regarding claims 10-15 and 18:**

Claims 10-15 and 18 are rejected on the same grounds as above claims 1-6 and 9 respectively.

20    **Regarding claim 19:**

Claim 19 is rejected on the same grounds as claim 1 above.


### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

25    forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious

at the time the invention was made to a person having ordinary skill in the art to which said
subject matter pertains. Patentability shall not be negatived by the manner in which the invention
was made.

5

Claims 7-8 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Cook* (USPN

5,727,950) in further view of *Cook₂* (W.I.P.O. International Publication Number WO 97/44766).

**Regarding claim 7**:

*Cook teaches* providing a level of granularity for restrictive access to presentation material (C5-63

10    especially "5.2.4 ABI System Security … possible security violations" C22 L30-C23

L20 and "FIGS. 10A, 10B and … past agent behaviors" C48 L30-60).

*Cook* fails to teach fails to teach each item in the presentation is assigned an identifier.

*Cook₂* discloses wherein each item in the presentation is assigned an identifier (pages 7-130 especially

"To facilitate metering…elements is metered" page 48 L28-33) to provide a level of

15    granularity for restrictive access to presentation material (pages 7-130 especially "5.2.4 ABI System

Security … possible security violations" page 43 L18-pages 44 L32 and "Figs. 10A,

10B and … past agent behaviors" page 99 L12-33).

*Cook* and *Cook₂* are from the same field of endeavor: agent based instructional systems.

At the time of the invention it would have been obvious to use the identifiers of *Cook₂* in the invention of

20    *Cook* exactly as is done in *Cook₂* since *Cook₂* is a further disclosure of the same invention by the same

inventative entity as *Cook.*

**Regarding claim 8**:

*Cook* fails to disclose wherein each activity associated with a presentation is identified to provide a level

of granularity for restrictive access to the activity.

25    *Cook₂* discloses wherein each activity associated with a presentation is identified to provide a level of

granularity for restrictive access to the activity (pages 7-130 especially "before allowing

downloaded … common server systems" page 35 L2-10 and "If they do…caught and

rejected" page 46 L1-12 and "this data includes…by the student" page 90 L11-35 and "The

student data…occurring too frequently" page 102 L14-37).

*Cook* and *Cook₂* are from the same field of endeavor: agent based instructional systems.

At the time of the invention it would have been obvious to use the identifiers of *Cook₂* in the invention of

*Cook* exactly as is done in *Cook₂* since *Cook₂* is a further disclosure of the same invention by the same

inventative entity as *Cook*.

5      **Regarding claim 16 and 17:**

Claims 16 and 17 are rejected on the same grounds as above claims 7 and 8 respectively.


### *Response to Arguments*

Applicant's arguments filed 7/12/2005 with respect to claims 1-18 have been considered but are moot in

10     view of the new ground(s) of rejection.


### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Richard (USPN 6,149,438)

15     - Ho (USPN 6,120,300)

- L'Allier (USPN 6,039,575)


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the

20     extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the

mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of

this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed,

25     and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS

from the date of this final action.

### Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Benjamin J. Buss whose telephone number is 571-272-5831. The examiner can normally

5    be reached on M-F 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

10   Information Retrieval (PAIR) system. Status information for published applications may be obtained from

either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free).

15

Benjamin J Buss
Examiner
Art Unit 2129

BJB

DAVID VINCENT
SUPERVISORY PATENT EXAMINER